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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,611	02/06/2002	Michael Cleary	CLEARY - 1	6811

7590 10/29/2003

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1077 Northern Boulevard  
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EXAMINER

STAICOVICI, STEFAN

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/068,611

Applicant(s)

CLEARY, MICHAEL

Examiner

Stefan Staicovici

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because the form and legal phraseology often used in patent claims, such as "comprises" should be avoided. Further, the steps "e)" through "h)" should be changed to "(a)" through respectively, "d)". Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

2. Claims 1-15 are objected to because of the following informalities: in claim 1, line 5, after "cutting", --of-- should be inserted. Claims 2-15 are objected to as dependent claims. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219).

GB 2 334 347 teaches the basic claimed process of forming microparticles including, affixing a wafer (substrate sheet) to a support and subjecting said wafer to a wet etching process that simultaneously divides said wafer (substrate sheet) into a plurality of microparticles and etches holes through each microparticle, said holes forming an identifiable code and, removing said microparticles from said support (see page 12, line 15 through page 13, line 12 and Figure 3).

Regarding claims 1 and 2, GB 2 334 347 does not teach laser etching. Brogger *et al.* ('690) teach the use of a laser to encode symbols on microparticles by ablating the outer surface of said microparticles to form recesses (see col. 7, lines 15-24). Ridinger ('219) teaches a laser etching process that provides a much simpler process than a wet etching process (see Abstract), said laser process using a single laser. Therefore, it would have been obvious for one of ordinary skill in the art to have used a single laser as taught by Brogger *et al.* ('690) to form microparticles in the process of GB 2 334 347 because, Ridinger ('219) specifically teaches that laser etching using a single laser is a much simpler process than wet etching, hence providing for an improved process and also because Brogger *et al.* ('690) specifically teaches the use of a laser in etching microparticles as an equivalent alternative.

In regard to claim 4, GB 2 334 347 teaches reading said code of said microparticles based on light transmittance (see page 11, lines 22-24).

Specifically regarding claims 8-10, GB 2 334 347 teaches said wafer (substrate) is adhesively bonded to a glass plate support (sheet of inert material) plate (see page 7, lines 18-21).

Regarding claim 11, GB 2 334 347 teaches removing said microparticles by dissolving said adhesive (see page 7, lines 19-21) using a solvent (see page 13, lines 8-9).

In regard to claim 12, Brogger *et al.* ('690) teach suspending said microparticles in a lacquer and applying (painting/sprayed) said lacquer/microparticle mixture to an object (see col. 7, lines 34-36 and 38-51). It is submitted that said lacquer/microparticle can be painted or sprayed.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219) and Mead *et al.* (US Patent No. 6,541,731 B2).

GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) teaches the basic claimed process as shown above.

Regarding claim 3, GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) do not teach separate laser devices. Mead *et al.* ('731) teach a laser drilling process using separate laser systems that work on the same workpiece simultaneously (see col. 6, line 64 through col. 7, line 5 and Figure 11). Therefore, it would have been obvious for one of ordinary skill in the art to have provided separate laser devices as taught by Mead *et al.* ('731) in the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) because, Mead *et al.* ('731) specifically teaches that using separate laser devices increases repetition rates and pulse duration, hence improving process control and versatility (see col. 2, lines 25-30).

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219) and Stevens (US Patent No. 4,390,452).

GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) teaches the basic claimed process as shown above.

Regarding claim 5, although GB 2 334 347 teaches a metallic microparticle (see page 28, lines 3-4), GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) do not teach a microparticle having a metallic layer deposited by vacuum deposition. Stevens ('452) teach microparticles that include a metallic vapor coating (see col. 3, lines 10-12). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a metallic vapor coating as taught by Stevens ('452) to the microparticles obtained by the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) because Brogger *et al.* ('690) specifically teaches that a metal ablated layer is likely more difficult to counterfeit, hence improving product quality. It is submitted that "ablation" requires a laser process that melts said metallic layer to form recesses (see col. 7, lines 15-25 of Brogger *et al.* ('690)).

In regard to claim 7, Brogger *et al.* ('690) teach laser ablation of indicia (see col. 7, lines 15-16). Stevens ('452) teaches microparticles bearing indicia such as alphanumeric (digits) characters (see Abstract and Figure). Therefore, it would have been obvious for one of ordinary skill in the art to have provided alphanumeric indicia as taught by Stevens ('452) to the microparticles obtained by the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in

further view of Ridinger ('219) because Stevens ('452) specifically teaches that alphanumeric indicia allows for much faster decoding (see col. 1, lines 30-35) and also because, Brogger *et al.* ('690) specifically teaches laser ablation of indicia on the exterior surface of a microparticle, whereas Stevens ('452) teaches that indicia includes both letters and alphanumerics (digits).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219) and Meloy (US Patent No. 3,861,886).

GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) teaches the basic claimed process as shown above.

Regarding claim 6, GB 2 334 347 teaches that said code is formed by a plurality of holes (see Figure 3). Although GB 2 334 347 teaches that said microparticles are not limited to silicone, GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) do not teach plastic microparticles. Meloy ('886) teaches the use of both ceramic and plastic materials depending on a variety of factors such as the materials' homogeneous nature, cost and have surface properties suited to the particular application in which they are to be used (see col. 7, lines 18-40). It is submitted that the type of material used to make a microparticle is a result-effective variable. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill in the art to have used routine experimentation to determine a plastic material that is the optimum material to use to make microparticles by the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) and Meloy ('886) because, Meloy ('886) specifically teaches the use of both ceramic and plastic

materials and the choice of the material is a result-effective variable depending on a variety of factors such as the materials' homogeneous nature, cost and have surface properties suited to the particular application in which they are to be used.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219) and Wamprecht *et al.* (US Patent No. 4,990,583).

GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) teaches the basic claimed process as shown above.

Regarding claim 13, although Brogger *et al.* ('690) teach a transparent lacquer as a suspension, GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) do not teach a suspension including an antioxidant. However, the use of antioxidants in lacquers is well known as evidenced by Wamprecht *et al.* ('583) which teach that the use of antioxidants in clear coatings of lacquer is conventional (see col. 7, lines 45-50). Therefore, it would have been obvious for one of ordinary skill in the art to have used an antioxidant as taught by Wamprecht *et al.* ('583) in the lacquer of the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) because, Wamprecht *et al.* ('583) specifically teach that antioxidants are needed to form a clear lacquer which is required by Brogger *et al.* ('690).

9. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 347 in view of Brogger *et al.* (US Patent No. 6,309,690 B1) and in further view of Ridinger (US Patent No. 4,724,219) and Gee *et al.* (US Patent No. 6,527,965 B1).



GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) teaches the basic claimed process as shown above.

Regarding claims 14-15, GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) do not teach a computerized laser system such that said support is movable with reference to an impinging laser beam. Gee *et al.* ('965) teach a computerized laser system including a movable mounting stage (support) positioned in a plane perpendicular to said impinging laser beam (see Figure 1). Therefore, it would have been obvious for one of ordinary skill in the art to have provided the computerized system of Gee *et al.* ('965) in the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219) because, Gee *et al.* ('965) specifically teaches that such a laser system is best suited for cutting of a silicone wafer (substrate) into a plurality of components (microparticles) which is required by the process of GB 2 334 347 in view of Brogger *et al.* ('690) and in further view of Ridinger ('219).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (703) 305-0396. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM and alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached at (703) 305-5493. The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Stefan Staicovici, PhD

  
Primary Examiner 10/24/03

AU 1732

October 24, 2003